



**April
2016**

The Surrey Amateur Radio Club

Communicator



World Amateur Radio Day

April 18th

See page 17

The Newsletter of the Surrey Amateur Radio Club

April 2016



At The Last Meeting...

SURREY AMATEUR RADIO CLUB

TELEPHONE & ADDRESS

(778) 806-4662

12144 - 57A Avenue
Surrey, BC V3X 2S3
SARC@ve7sar.net

EDITOR

John Schouten VE7TI
SARCcommunicator@outlook.com

WEBMASTER

Howard Ticzon VA7HTZ

NET MANAGER

Garvin Yee VA7YEE

QSL MANAGER

Heinz Buhrig VA7AQ

REPEATER MANAGER

Mike Plant VE7AT

MEMBERSHIP

John Brodie VA7XB

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At The March 9, 2016 Meeting...

Meeting called to order at 7:01pm

Welcome

Director, John Brodie VA7XB, chaired the meeting and welcomed everyone, including the evening's presenter, Adam Farson VA7OJ, speaking about World War II German radar systems. A welcome was also extended to Craig Winchar, our newest club member whose callsign since 1970 has been VE4WI, but is VA7CLW now.

Announcements

We have a new club president, Stan Williams VA7NF, who will be fulfilling the duties until the 2016 AGM. A reminder to everyone that there will be the usual get together at the McDonalds on Fraser Hwy immediately following the meeting.

Financial Update

Scott Hawrelak VE7HA

Scott presented the balance for HSBC and Tangerine accounts. Club patches are available - see Scott. A member has expressed a wish to inspect financial statements at a general meeting. Scott explained that he always has an audited financial statement for the last fiscal year in his briefcase for any member to look at. If anyone wants to see it at a meeting, just ask. In addition, all current years receipts and bank deposits are available upon request

Committee Reports

AGM update

John Brodie VA7XB

We need to elect 5 directors this year and are looking for a volunteer to find candidates for the upcoming AGM. John informed the attendees that bylaw revisions are being drafted for the AGM. In response to a question from Sheldon Ward, John advised that the proposed bylaw revisions will be sent out via email before the AGM.

Foxhunt

Anton James VE7SSD

Anton confirmed the date for the foxhunt is May 21st this year and the 80m receiver kit project is on track - Keith and group

are performing pre-assembly now. There will be a group meeting intended for the assembly of the receivers ahead of the fox hunt. For the Fox Hunt we will have usual BBQ as well, and everyone is welcome regardless if they participate in the actual fox hunt or not. Amel will be helping set up the foxes and technical aspects but anyone interested in helping Anton or Amel would be welcomed. The time for the fox hunt time is 9:30am - 12:00 followed by the BBQ till until approximately 3:30pm at the same location as last year (Crescent Park, South Surrey). John B. asked if the date is known to the ARDF group and has been announced? Anton will confirm with Amel on this. John B noted that we should put something on the website about it also.

Website Update

Howard Ticzon VA7HTZ

The website is working well and the March Basic training course flyer has been posted there for the public to see. Howard is working on a new version of the website design that would support a login for members using HTML 5 - possibly there will be an update at next meeting. John B. noted that some updates to the club Directors are required. John B. will check with Stan and send info to Howard. Also Jeremy Morse to update Howard on the demo site he worked on earlier.

Repeater

No report available. Mike Plant is to continue as a repeater manager.

Club Net

A new Net Manager is needed to organize the weekly net activities. We also have 2 vacant spots on the net control schedule.

Membership

Our current membership is 84 members. A membership coordinator is needed.

QSL Manager

No update

Clubhouse Update

Jeremy Morse VE7TMY provided an update at the meeting. Further details are provided on page 4.

May Meeting

This is typically a Field Day planning meeting, chaired by the FD coordinator.

Field Day

John B. - we need a field day coordinator. Where will we hold the field day - clubhouse or field? What kind of event will it be - will it be competitive again or possibly a smaller event with focus on social and other club member activities? A quick survey was taken by the members in attendance and opinion seems to be divided at 50/50. Jinty Reid - we should send email around to members not in attendance asking for volunteers and their thoughts on these questions.

Ham Classes

We have a total of 8 people registered as of the date of the meeting, and some interest from the boy scouts so we may fill up soon. Posters are available for distribution to libraries and other places; members are asked to help distribute them.

New Business

None

~ Coffee Break ~

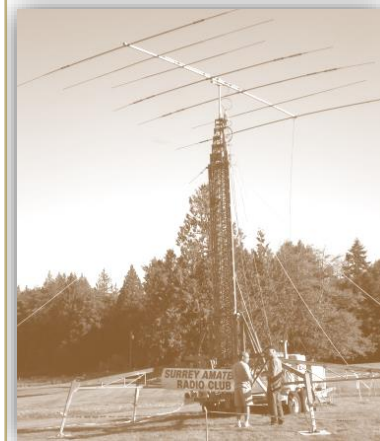
Presentation

German WW 2 Radar - Adam Farson
VA0J/AB4OJ.
See the article on [Page 6](#).



John Brodie thanked Adam Farson for the presentation and meeting adjourned at 9:15pm PDT.

~ Minutes prepared by
Jeremy Morse VE7TMY



The **SARC Communicator** is published monthly except July and August for members of the Surrey Amateur Radio Club.

To subscribe, unsubscribe or change your address for e-mail delivery of this newsletter, notify **SARCcommunicator @ outlook.com**

Non-members living in the Greater Vancouver area may receive one trial issue.

Beyond our membership area, annual Communicator subscriptions are available for a \$5 donation towards our Field Day fund.

SARC maintains a website at **www.ve7sar.net** that includes club history, meetings, news, photos and other information.

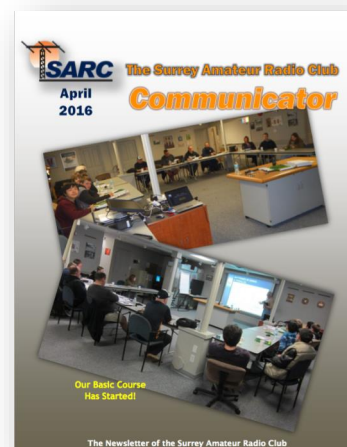


Kalmar Koffee Klatch Reminder

The SARC Weekly Koffee Klatch is on Saturday at the Kalmar Restaurant at 80th and King George Hwy in Surrey at 9:00 am. Bring your significant other, bring your family, see old friends and have fun.

On The Cover...

Our first Basic Course in a few years has begun. The students were enthusiastic about a new area of interest that would serve as an exciting new pastime or as a tool for emergency preparedness. We welcome them to the course and wish them success!



April 2016



Club Station News

Jeremy Morse VE7TMY

At the March meeting our clubhouse chair, Jeremy Morse, presented an update on the clubhouse status and noted that a full meeting is being planned for April to discuss all areas of clubhouse planning.

What has happened to date:

- Our lease began March 1st 2016.
- A Clubhouse committee was formed, with 11 members including Jeremy Morse VE7TMY as chair of committee
- 5 keys will be available shortly and they have been assigned to: Stan Williams VA7NF, Jeremy Morse VE7TMY, John Brodie VA7XB, John Schouten VE7TI, Al Saunders VA7BIT
- Some members had a tour after Saturday's usual breakfast meeting at the Kalmar and this will be continued as long as key holders are attending and able to open the clubhouse that day.
- Some existing furniture from previous tenants will become ours, i.e. filing cabinets and a large desk.
- Room assignments have been prepared we are planning for a large radio room, 1 office room, 1 social area (open), 2 small storage rooms, 1 workshop, 1 optional room (possibly 2nd radio room).
- Considerations for antenna placement, grounding and coax routing have been started.
- An expenditure of \$75 to RAC to have City of Surrey added as additional named insured (Cross liability provision)
- 24/7 operations would be available for usage of the clubhouse, with pre-booking required in most cases.
- We are looking for donations of 3 LCD monitors, 3 keyboard/mice, 12 office chairs.

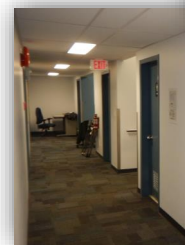
Our first Exec meeting at the clubhouse



• 24 desks were sourced by Mike Plant VE7AT and set up by a team of volunteers. Thanks!

• 2 VHF, 1 HF radios and a power supply have been donated by Norm Schmidt VE7IIT. (photo at left) Thank You!

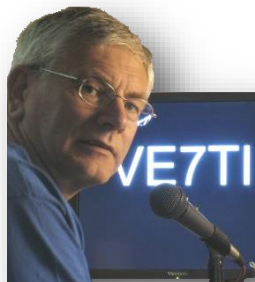
• 3 Computers and an HF radio/power supply have been donated by Keenan Tims VE7XEN. Thanks!



Looking at our copious space

Access to a nice kitchen facility





A Course Update

John Schouten VE7TI

Our Basic Course Is Off To A Good Start

The evening of Tuesday, March 29th saw the start of our eight week Basic Amateur Radio qualifications course, held at the Surrey Fire Service Training Centre on 64th Avenue. The students range in age from teens on up. For the first time we had a significant number of scouts and other teens interested in the hobby. Backgrounds ranged from the curious to those who had experimented with CB Radio, an interest in the emergency preparedness aspect of the hobby, a mechanical engineer and an electronic circuits designer.

The question bank was re-worked in 2014 and some of the vague and erroneous questions replaced. Other changes include replacing the term 'feedline' with the more appropriate 'transmission line'.

As in the past, the exam is heavily weighted to Rules and Regulations with 25% of the exam questions on that topic, about 21% on Station

Assembly & Safety, 13% on basic electronics, transmission line & antenna theory, 9% on Operating Procedures, 8% on Radio Wave Propagation, 6% on Circuit Components, and just 5% on Interference and suppression.

We look forward to a great course and an influx of new Amateur operators.



We have a well-equipped teaching space thanks to the Surrey Fire Service

The World of Low Power (QRP) Operation

Dan Maloney KC1DJT describes the World of QRP Operation in his Hackaday article How Low Can You Go?

Newly minted hams generally find themselves asking, "What now?" after getting their tickets. Amateur radio has a lot of different sub-disciplines, ranging from volunteering for public service gigs to contesting and fox hunting, the closest thing the hobby has to a full-contact sport. But exploring options in the world of ham radio, there is one discipline that seems like the purest technical expression of the art and science of radio communication - low-power operation, or what's known to hams as QRP.

With QRP you can literally talk with someone across the planet on less power than it takes to run a night-light, using a radio you built in an Altoids tin. Now that's a challenge you can sink your teeth into.

Read Dan's article at

<http://hackaday.com/2016/03/08/how-low-can-you-go-the-world-of-qrp-operation/>

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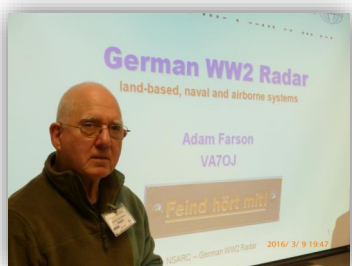


At The Last SARC Meeting

Text Courtesy of Jeremy Morse VE7TMY

Photos Courtesy Of Hiu Yee VE7YXG

German World War Two Radar



The presentation was made by Adam Farson VA7OJ/AB4OJ.

The slide deck can be viewed here:
http://www.nsarc.ca/hf/german_radar.pdf

Adam picked up German while living in South Africa, and he also worked for Siemens (an engineering company) for 20 years. Reading German was important because most of the books written on the subject of German radar systems were only available in German. Germany did not encourage the use of radio amateurs prior to or during WW2, unlike the allies using military, contractors and civilians to get things done. German manufacturers were not encouraged to share information with each other, which made technology improvements difficult. One good thing the Germans did do for themselves was to keep most radio systems to a maximum of 2-3 different types of tubes. This made replacing/repairing them easier as well as keeping spare part inventories stocked properly.

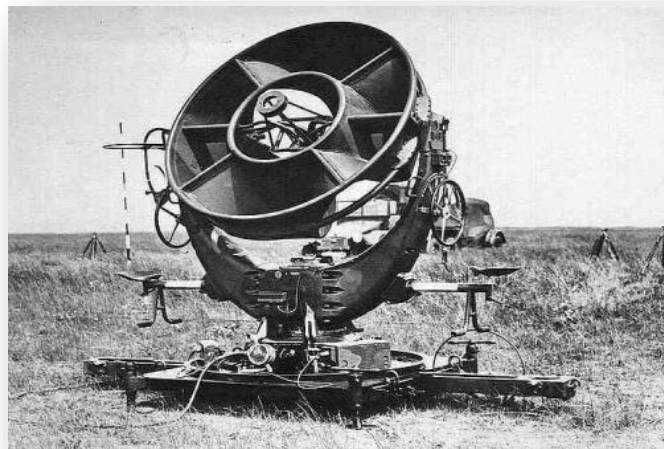
The common types of radar systems were Freya (land based), Seetakt (naval) Würzburg (fighter control/gunlaying), Lichtenstein (airborne). Several manufactures were used such as GEMA (Ges. für Elektroakustische u. Mechanische Apparate), Lorenz AG, Telefunken, and Siemens & Halske AG.

Freya was an early-warning/search radar that was used to detect incoming aircraft. Most installations were stationary but some were later transportable but far from being mobile. Freya had

a range of up to 60km then later 120km. The CRT monitors and the display output were far from what are known today. No representations of airplanes were on the screens, instead an analog signal could be viewed much like what is seen on an oscilloscope. Each of these displays would show the operator the long range, direction, and short range view. The radar operators had to perform much of the calculations themselves to determine speed, size, and number of approaching aircraft. The operators got quite good and reading the various displays that they represented.

Seetakt was a much smaller Freya variant installed aboard ships and used in searching for the enemy and ranging the guns. It had a range of only 14km and then later 25km. It was used on the one of German's largest battleships, the Bismarck. Shock waves from the ship's own offensive guns often destroyed the glass transmitting tubes. When the ship's stores ran out of spare tubes, the ship would be blind.

Adam picked up German while living in South Africa, and he also worked for Siemens (an engineering company) for 20 years.



Würzburg was an improvement over the Freya and was used as gun laying radar. It had a range of 29km and was very accurate to 25m compared to the Freya. It was also very portable on a trailer and could be moved quickly to different locations. Würzburg-Riese was a giant version of the portable Würzburg and had a range of up to 70km with precision down to 15m. Both these systems featured a parabolic dish antenna with a feed at the focal point. Otherwise, their electronics were shared.

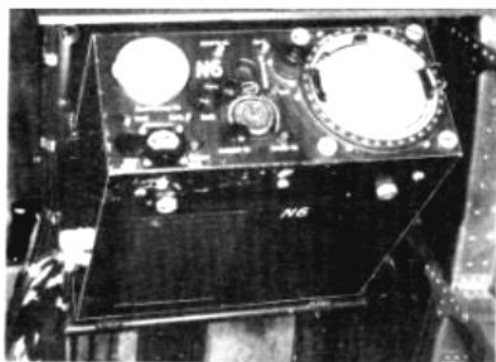
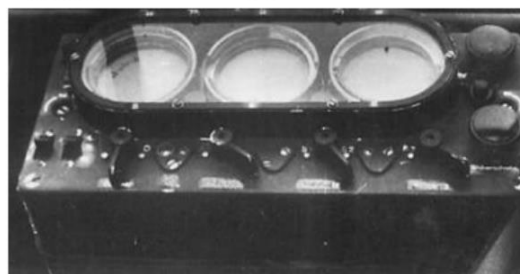
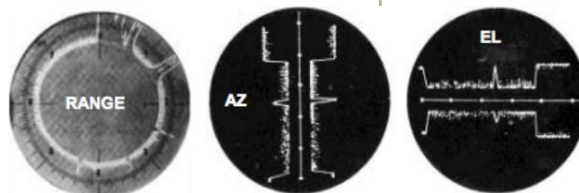
The allies were often able to quickly develop ways to jam the German radar systems. Also at one point a Würzburg-Riese radar was taken by British troops. They were able to quickly steal the critical radio components and measurements of the parabolic dish and get away without detection. This allowed Britain to develop countermeasures for this radar type.

Lichtenstein was an airborne radar system used by pilots to spot enemy aircraft. It was often difficult for the pilots to both fly the plane and interpret the CRT displays. Pilots often disliked these systems because the drag from their Yagi antenna arrays (nicknamed "antlers") slowed the plane by as much as 50km/h from its top speed.

Hitler turned down the development of microwave radars due to the research requiring several years. It was his policy that if no usable applications for the technology could be developed within 6-12 months it was a wasted effort. Several downed allied bombers were searched for

radar equipment and eventually enough parts were taken to build a workable RAF H2S set. When Hitler was invited to see the working H2S set operating the screen had a detailed street map of Berlin. It is rumoured that this was the first time Hitler considered suicide.

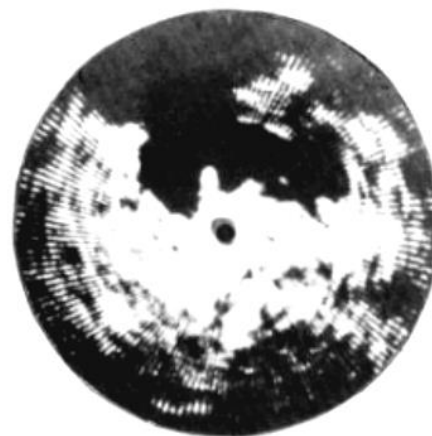
Berlin N1 (airborne microwave radar) was based on the captured RAF H2S. It had a range of 5km and accuracy of 350m. The race for radar superiority was indeed a long one but Germany was behind early and only started to catch up at the end of the war. Adam also pointed out that several links are included in the presentation for those interested.



Cockpit indicator unit with PPI (r.) and EL (l.) scopes



4-element polyrod antenna, downward-looking & rotating at 400 rpm.



Typical PPI display: outer range ring 18 or 60 km

April 2016



Radio-Active

Jinty Reid VA7JMR



Dixie Mogg
VA7DIX

Dixie was born and brought up in East Vancouver near the Burnaby border. She and her one younger brother worked in the family garden most days. However, once a year they spent time dragging discarded railway ties up the tracks with a rope and hauled them home on a toy wagon. The ties had to be sawn with a buck saw to furnace length. Once that job was completed, their father chopped them a suitable size and the two children carefully piled them for winter heating. That was but one of many labor intensive jobs.

Weekend outings were a hike to the North Shore via the Cassiar Bridge to fish for food that could be preserved as the vegetables were. One special weekend a family friend picked them up to see the Lion's Gate Bridge before it was joined. Another outing was to view the Royals drive through Stanley Park when our present Queen was a very young girl.

Of particular interest in those early years was the amazing capabilities of a homemade crystal radio with its whisker and CW. That opened a door of fascination. Making up codes was entertaining for passing notes to other girls in school. Soon track and field sprinting filled her spare time and later, training others as well.

Fast forward the child bearing years and Dixie earning a living in offices to support herself and three youngsters. Dixie worked

until poor health took her out of the work place and into volunteer positions with her church, the Art Gallery, Arthritis Association and the Senior Centre.

Then one day Alan Saunders VA7BIT, asked her if she would like to become a ham operator helping out communications in times of emergency. There it was... the fun of codes and speaking to unknowns for a good reason, as well as fun. Five years of daily recording the nets became a great adventure for her. Talking with folks in Eastern Canada, England, Japan, and most of the U.S.A. All that with a hand held and the help of repeater nodes.

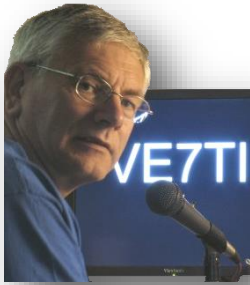
Dixie is grateful for the help she has had acquiring her minimal equipment and getting it set up. Her interest in sharing with others became addictive and led to loss of sleep. As a result some nets were given up. Now her daily time on air is curtailed to local clubs.

She is proud to be the matriarch of four generations and looks forward to enjoying ham radio for years to come. Good luck to you Dixie, we wish you well, 73.

~ Jinty Reid VA7JMR

*We have some spare clubhouse desks/workstations available.
Each has a slide-out keyboard shelf.
If you are interested, please contact John Brodie
604-591-1825 or VA7XB@RAC.ca.*





Back to Basics

John Schouten VE7TI

From The Basic Question Bank

Question B-001-014-011

Third Party Traffic

The question asks which answer is NOT correct. "Which of the following statements is not correct? A Canadian radio amateur may, on amateur frequencies,:

- A. pass messages originating from or destined to the United States Military Auxiliary Radio System (MARS)
- B. pass messages originating from or destined to the Canadian Forces Affiliate Radio Service (CFARS)
- C. communicate with a similar station of a country which has not notified ITU that it objects to such communications
- D. pass third-party traffic with all duly licensed amateur stations in any country which is a member of the ITU

Third party communication is one of the more complex issues in the Canadian Radio Communications Regulations, and for that matter, most other countries.

The majority of nations are members of the [International Telecommunications Union \(ITU\)](#). They allocate global radio spectrum and satellite orbits, develop the technical standards that ensure networks and technologies seamlessly interconnect, and strive to improve access to ICTs to underserved communities worldwide. Canada is a member.

Ham radio is frequently used to send messages on behalf of unlicensed persons or organizations. One of the oldest activities is the sending of messages, relaying them from station to station until delivered by a ham near the addressee. This is third party communication. Since these bypass the normal telephone and postal systems, many foreign governments want some form of control over them. If the foreign government prohibits third party communications, you may not pass such traffic.

- The entity on whose behalf the message is sent is the "third party" and the control operators that make the radio contact are the first and second parties. A third party can also be the recipient of a message generated by a ham.
- A licensed amateur capable of being a control operator at either station is not considered a third party.
- The third party need not be present in either station. A message can be taken to a ham station or a ham can transmit speech from a third party's telephone call over the ham radio - called a phone patch.
- The communications transmitted on behalf of the third party need not be written. Spoken words, data, or images can all be third party communications.
- The third party may participate in transmitting or receiving the message at either station. An unlicensed person in your station sends third party communications when they transmit anything.
- An organization such as a church or school can also be a third party.

In other words, anytime that you send or receive information via ham radio on behalf of an unlicensed person/organization, that's third-party communications.

In any event, traffic must comply with Canadian regulations, be non-commercial and be passed without charge.

- A. The correct answer to this question therefore is "D" because you may NOT pass third-party traffic with ALL duly licensed amateur stations in any country which is a member of the ITU if that country objects.

Phewww!

~ John VE7TI

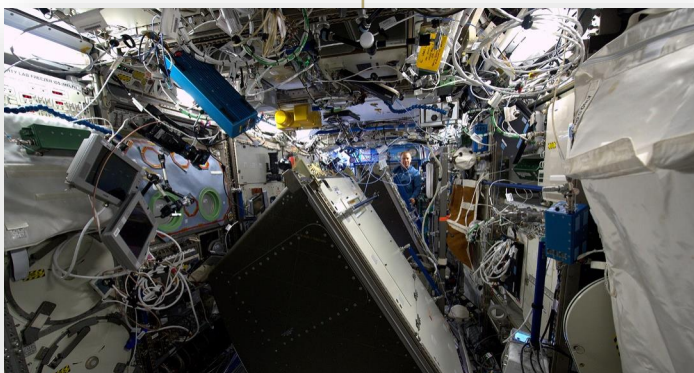
Ham radio is frequently used to send messages on behalf of unlicensed persons or organizations



April 2016



Various Ham tidbits from around the globe



The World's Worst Cable Nightmare?

So you think you have a really bad cable nightmare behind your home theater system or under your desk at work? Look at this photo above taken aboard the International Space Station, and think again.

This pretty horrific cable mess was caused by ESA astronaut Tim Peake and NASA astronaut, space station commander Tim Kopra, both working on rerouting cables in order to upgrade

communications. As the British spaceman tweeted jokingly:

"Don't worry NASA, Tim Kopra and I have got this space station under control... now where did this cable go?"

Winlink News

If you are using Winlink, this will be of interest to you:

On April 15, 2016, the Winlink system will begin requiring the use of passwords and secure login for all users. This is being done to enhance the privacy and protection of the Winlink community. If you've already entered both a password and also turned on Secure Login, you don't have to make any other changes. The transition taking place on April 15, 2016, won't change your operation. If you have not set a password for your account, and also have not enabled Secure Login, we recommend you do it now so you won't be

surprised on April 15, 2016.

For RMS Express, setting a password and Secure login are very easy to do:

1. Connect your computer to the Internet.
2. Run RMS Express.
3. Click the menu item "Files" then "RMS Express Setup"
4. Enter your password in the field next to your callsign, and check the "Require password on connections (Enable Secure Login)" checkbox.
4. Enter a password recovery e-mail in the appropriate field. This must be a non-Winlink address.
5. Click "Update".
6. RMS Express will set your password on the Winlink system and enable secure login.

NOTE: If you're using a different Winlink e-mail client program such as Paclink or Airmail, you must follow these steps:

1. Go to www.winlink.org, and select the My Account tab.
2. If you haven't previously selected a password, select one now. Otherwise log in.
3. Navigate to the screen that lists your account information, and click "Edit".
4. Scroll down and enter your password-recovery e-mail.
5. Check the box to enable Secure Login.
6. Click "Save" at the bottom of the screen.
7. Next, find the place in your Winlink client program where you can enter your password, and set it for the client. Note: there may be non-Winlink developed client programs that cannot accept a passwords with secure login.

A New Battery Technology On The Horizon

The research arm of the US Department of Energy (DoE) claims to have discovered game-changing energy-storage technologies that could accelerate the uptake of clean energy and make everything from smartphones to electric vehicles run for longer.

Ellen Williams, director of DoE's Advanced Research Projects Agency-Energy (ARPA-E), says it has achieved several breakthroughs in energy-storage technology that could transform the electrical grid. "We have reached some holy grails in batteries, just in the sense of demonstrating that we can create a totally new approach to battery technology, make it work, make it commercially viable, and get it out there to let it do its thing,"

Several industries are on the hunt for a technology to surpass today's lithium-ion batteries used in smartphones and electric vehicles. These technologies, she said, have the potential to transform utilities and create micro-grids for use by the military and in disaster relief.

One project is exploring an all-iron flow battery to store renewable energy efficiently for later reuse on the grid.

ARPA-E has also backed a Stanford University project that is working on an all-electron battery, which stores energy by moving electrons rather than ions and employs a different structural design that it says could boost the amount of energy the battery can store and reduce degradation. It's targeting the electrical vehicle market.

MIT has also been granted \$6.9m to develop a 'battery for the neighbourhood' that contains liquid-metal electrodes and a molten-salt electrolyte. "Because metals and salt don't mix, these three liquids of different densities naturally separate into layers, eliminating the need for a solid separator.

Yet another battery project that has gained \$5.4m in funding comes from PolyPlus, which is developing a lithium-air battery, which it says can store nearly seven times as much energy as lithium-ion batteries. It envisages its battery will allow electric vehicles to travel 500 miles on a single charge that would cost less than \$10.

It envisages its battery will allow electric vehicles to travel 500 miles on a single charge that would cost less than \$10

Ham radio Foundation course for iOS and Android

The Australian Radio & Electronics School (RES) has made available a free 2-3 day amateur radio Foundation license course App for Apple and Android devices. Both applications once downloaded and installed require no internet connection. In the iOS version the videos are download once only as needed and no further downloading is required.

Both courses are the same and comprise of easy to follow instructional videos. Although these are based on the Australian Question Bank, the principals remain the same, it is the Regulations that will likely not apply.

This short course is suitable for about 11 years and up.

Apple iOS devices - iPad / iPhone

<https://itunes.apple.com/us/app/amateur-radio-foundation-course/id1077291042>

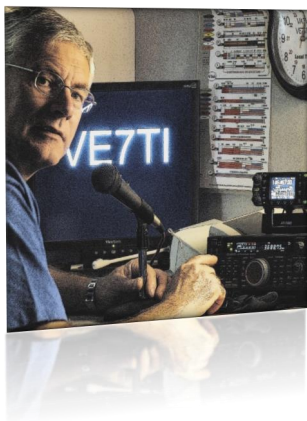
Android link at

<http://www.res.net.au/index.php?cmd=app>

Radio & Electronics School

<http://www.res.net.au/>

April 2016



QRM

...from the Editor's Shack

*Do you have a photo or bit of club news to share?
An Interesting link?*

*Something to sell or something you are looking for?
eMail it to [SARCcommunicator @ outlook.com](mailto:SARCcommunicator@outlook.com) for inclusion in this column.*

John VA7XB is looking to purchase an old-fashioned straight key for his grandson, who wants to learn CW. A code practice oscillator is not required, as John owns one already. 604-591-1825 or VA7XB@RAC.ca.

We are looking for an oscilloscope for the Basic Ham Class. If you have one for sale or to borrow, please contact John VE7TI at VE7TI@RAC.ca

The Maple Ridge Amateur Radio Club presents the Fraser Valley's largest

HAM RADIO COMPUTER and ELECTRONICS SWAP MEET

Sunday May 1, 2016
9 AM – 1 PM

Location: 12460 Harris Road, Pitt Meadows, BC

http://mrarc.net/?page_id=447

Rapid Deployment Amateur Radio (RaDAR)

This is a concept for operating an amateur radio station anywhere, any time and even in adverse environmental conditions. See a promotional video at <https://goo.gl/cFyufV>

10 Reasons

And here are ten reasons why you should take your portable along: <http://www.hamblog.co.uk/top-10-reasons-to-take-ham-radio-portable/>

Mesh Networks

They are working on something like our BCWARN system in Toronto. There is also an interesting concept: The Mobile AREDN Mesh Network. <http://va3qr.ca/arednmobile/>

Seattle Communications Academy

Time once again to start planning to attend the Communications Academy in Seattle. Your Editor has attended several years past and the agenda is always interesting and informative. There is also a large display of current communications technology.

This year, the Academy is on the weekend of April 9 and 10. This includes two days of training and information on various aspects of emergency communication, including The Amateur Radio Emergency Services (ARES®); Auxiliary Communications Service (ACS); EOC Support Teams; Radio Amateur Civil

Emergency Service (RACES), Civil Air Patrol, Coast Guard Auxiliary, REACT, and Community Emergency Response Teams.

Anyone interested in emergency communications is encouraged to attend. For more information, go to <http://comacademy.org/>

Quickies

A new emergency radio go kit: <http://emergencyradiogokit.com/>

SWR plots using Excel: <http://meterbuilder.com/mb1/utilities.htm>

The military has come up with really unique devices to improve radio communication: <http://youtu.be/houIJThDW0>

Another excellent video on digital modes: https://www.youtube.com/watch?v=Aqdo9bBa_aM

We seldom consider the quality of microphones but sounding good and intelligible is essential. In this video, Bob Heil demonstrates and discusses the important aspects of microphones: <http://youtu.be/o0gr9TmzGDA>

"Ham Radio Now" hosted the 2015 ARRL/TAPR Digital Communications Conference. You can now watch the presentations by selecting the chosen topic at https://www.youtube.com/playlist?list=P_L24Rak2jsMJRlvRDXpqtlnrWLpc7utxss

The first contact on 241 GHz: http://www.southgatearc.org/news/2016/february/first_uk_ham_radio_contact_on_241_ghz.htm#.VtMawubqM9I



Page 13—News You Can Lose

The Lighter Side of Amateur Radio

Potato Power!

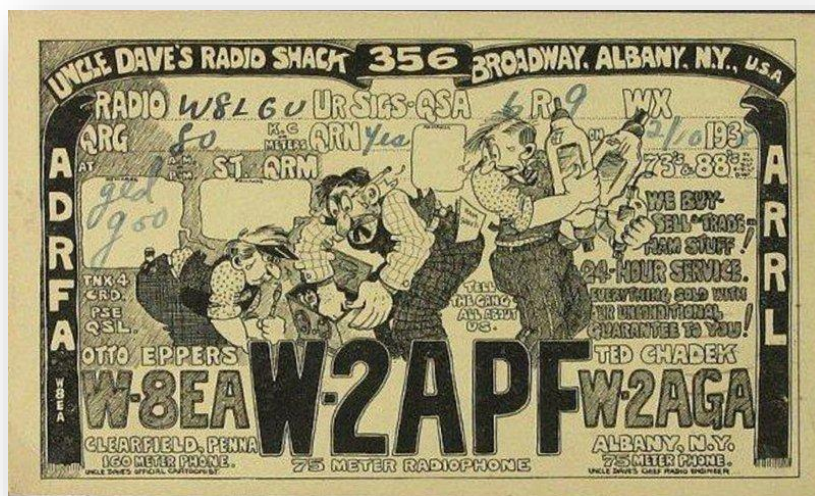
With the world turning more and more to renewable energy, we're seeing an increasing use of this technology around the home. Even Martha Stewart has caught on and presents an informative video on using natural energy sources. See it at https://youtu.be/Y_3wGZbbj1k



Seven wheelchair athletes have been banned from the Para-Olympics after they tested positive for WD40.



I bought the missus a hamster skin coat last week. When we went to the fair last night it took me 3 hours to get her off the Ferris wheel.



Otto Eppers' QSL Card Of The Month.
Don't know Otto? See The Communicator September 2015

April 2016



Adam's Tech Topics

Adam Foley N1RKW

Getting Started...

Adam Foley N1RKW has been around ham radio most of his life, but didn't smarten up and get his license until 2008. Since then he has gone on to great heights (the 12' high roof of his old house, and the 3rd floor apartment he's in now), and recently decided to take up writing a monthly column about ham radio and electronics, two of the subjects he knows a little bit about (but not much). He lives in Laconia, NH with his incredibly tolerant wife and equally tolerant son.

Last month's column was aimed mostly at amateur radio operators, this month's column is for the rest of you. All the hams reading this are welcome to stick around, you might even learn something interesting while you're here. At the very least you'll have a way to occupy some time.

There's something strange about the fact that I've been a ham for as long as I have and I'm still unable to answer the question, "What is ham radio?" with anything more than a blank stare and an "umm" or two. That was the super-intelligent answer I gave to the property manager of my apartment building the other day when she asked me just what ham radio was all about. Talk about making a good first impression...

I aim to fix that by writing this column, and perhaps I can answer that question for any of the non-hams that might be reading this. So, just what the heck is amateur radio?

image of two kids playing with walky-talkies here), but many of them just don't realize how often it is used in daily life. In fact, most people use radio of some sort or another all the time without even thinking about it. That cell-phone surgically attached to your teenager's hand? That's radio. The Blue-Tooth headset you're using to annoy the other Walmart shoppers? That's radio. The radar transponder that keeps traffic control informed of the precise location of the jet airliner your great-aunt Estelle is riding in as she's thankfully on her way home from a "delightful" one month stay at your house? That's radio. The microwave oven I just used to put the "hot" in my hot cocoa? That's radio. The GPS device the guy next to you in traffic is using instead of looking at the road, because everyone in the known universe seems to have lost the capacity to pull off to the side of the road and read a paper map? That's radio. The CB being used by truckers to chat with each other while spending otherwise lonely hours on the road? That's radio (obviously). The WiFi you're using to look at cat pictures on your laptop? That's radio. The anti-theft tag in the DVD you just bought while annoying the cashier by using your Blue-Tooth headset instead of answering her when she said, "Good afternoon."? That, believe it or not, is also radio!

That's not a comprehensive list of the various kinds of radio people use every day of their lives. Not even close. So what is it that makes ham radio different than all of the other kinds of radio out there?

There are a few things that make ham radio unique and therefor uniquely suited to do unique things. There are a large number of "radio services", which is the FCC's way of describing each different



At its core, ham radio (synonymous with amateur radio) is two-way radio. Most people have a decent understanding of what two-way radio is (insert mental

type or use category of radio. Most are for either government or commercial use, but there are a few radio services that are open to the general public.

The radio service that is most likely to be familiar to most people is CB or Citizens Band. No license is needed to use Citizens Band, and the equipment is relatively inexpensive. Unfortunately, CB has a reputation of being the hang-out of miscreants and louts. While this is true in some cases, there are many decent folks using CB these days. CB is limited to 40 channels (frequencies), low transmit power, and short range according to FCC law (47 C.F.R. Part 95 Subpart D).

Another radio service that doesn't require a license to use is FRS, or Family Radio Service. This is another low power, short range UHF (Ultra-High Frequency) radio service, with 14 channels available. MURS, or Multi-Use Radio Service, is similar but its 5 channels are located in the VHF (Very-High Frequency) portion of the radio spectrum. GMRS, or General Mobile Radio Service, is similar to and shares some channels with FRS, but requires an FCC license to use.

Most other radio services require licensing, and all are channelized, meaning that they have strict regulations regarding which frequencies that they can transmit on. The one and only exception to this strict channelization, to the best of my knowledge, is amateur radio. We are allowed to transmit anywhere within the bounds of the "bands" or chunks of radio spectrum allotted to us. There are some limitations based on which class of ham radio license we hold and agreements called "bandplans" designed to prevent chaos on the airwaves by keeping different types of radio transmissions from interfering with each other. Even with those limitations, an amateur radio operator has more "frequency agility" (the ability to decide precisely which frequency to use instead of being limited to predefined channels) than any other type of two-way radio operator. Another thing that's unique to ham radio is the ability to use radio equipment that is NOT certified by the FCC. In other words, we are free to use store bought ham radios, modify radios

designed for other services, or even build our own radios! When I told my apartment building's property manager about this, her response was to ask how the NSA allowed such things to take place, as if we were somehow a threat to national security!

Seriously?!?



Needless to say, I tried my best to explain the next thing that's unique about ham radio: We're here because we want to help out. We're the good guys! That's not to say that there aren't good people on other radio services, but one of the fundamentals of ham radio is that we are available to help out and provide communications as needed and when other systems break down. Because ham radio generally does not require any kind of infrastructure to work over long distances, it stays available when all other communications systems stop working. All you need to talk all over the world is a radio, a battery, and a piece of wire to use as an antenna.

It's not just the technology that sets ham radio apart. It's also the people. Amateur radio operators take on the name of "ham" and wear it proudly. To us, it is a compliment! A ham is a person who is willing to invest his or her time, money,

April 2016

Thanks for taking the time to read this. I'm always open for questions, comments, suggestions, and cups of hot chocolate. I can be reached by email at my call at hotmail dot com. If writing my email address that way actually fools the programs that prowl the internet looking for such things, I'll eat my hat.

education, and resources into a radio station or stations that serves not only their own interests but also the interests of those around them. It's not just about communication, it's also about giving back to the community. It's about being willing to fill in the gaps when needed. It's about being helpful. And it's about having fun.

Interestingly, no one seems to know for certain the origin of the word "ham" being associated with amateur radio. Some think it originates with telegraph operators calling the early radio operators "ham fisted", meaning that their Morse Code technique wasn't up to snuff. Others think it was due to the call sign used by the Harvard Radio Club, which was HAM. There are several other possible origins as well, none of which are any more likely to be the real origin than the others. The simple fact is that no one is certain why, but by the 1920s amateur radio operators had started referring to themselves as hams. One last thing on this subject: The word "ham" in association with amateur radio is just "ham". It doesn't need to be all in capitals, have periods between the letters like an abbreviation, or even have the first letter capitalized. It's just plain "ham" or "ham radio".

Most hams tend to have a much higher opinion of the hobby than the rest of the world does...

reality, what hams do on a regular day is just as varied as the hams that are doing it. Some are on their radios from morning to night trying to get a large number of QSOs (a QSO is a contact between two hams) for contest points. Some are trekking to exotic locations to set up temporary radio service in a remote locale in what's called a DXpedition (a combination of DX, meaning long distance, and expedition). Some are climbing local mountains to participate in Summits On The Air. Some are sitting in their living rooms with the radio on in the background. Some are sitting in their living rooms with the radio on on the foreground. Some are driving along talking to their friends on their mobile radios, utilizing the vast network of ham radio repeaters (a repeater is a radio set up in a high place that will repeat the signals it receives, providing extended range for nearby hams). Some are experimenting with antennas. Some are building their own radio circuits. Some are repairing radios, and some are breaking them. Some are using their PCs to control their radios. Some are providing beacon stations so that other hams can figure out which frequencies are working better than others. Some hams are building towers, and others are fighting their local towns to allow them to put antennas up. Some are perfectly happy with a simple handheld radio, and others put together vast stations containing literally dozens of high-end radios and antennas (most end up somewhere in between these two). Some hams are teaching others the joy of the vast hobby that is amateur radio. Some are chatting with each other via digital radio. Some are chatting with each other via analog radio. Some are fast asleep. Most are happy.

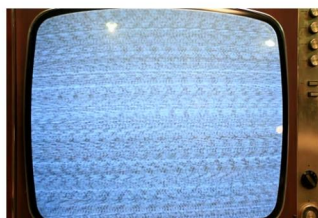
If I had to sum up what ham radio is with just one word, I think that word would have to be "Community". In the relatively short eight years since I joined the ham radio community, I have made some of the best friends I've ever had. I've learned amazing things. I've found new interests. I've helped others, and been helped by others. I've had more enjoyment from the hobby than I ever imagined I would. I've become a part of this worldwide



**What Our Friends
Think We Do**



**What Our Families
Think We Do**



**What Society
Thinks We Do**



**What the Media
Thinks We Do**



**What We
Think We Do**



**What We
Actually Do**

Amateur Radio...
What we Hams do.

I hope it's clear that this image represents some of the extremes in the ham radio hobby, rather than the expected norm. In

community of amateur radio enthusiasts, and I love every minute of it. This is why I always say, "The more, the merrier!" when I hear about someone getting their ham radio license or getting on the air for the first time.

Joining this amazing hobby is easier than ever these days. The entry-level test for getting your amateur radio license is easy enough that young children, some as young as four and five years old, have been able to pass it. A ham radio license is a ticket to a world wide community of people who connect via the airwaves instead of phones and computer networks (though we do put the internet to good use), and a ticket to lifelong friends.

Ham radio is more than just a hobby, it's a lifestyle. It's not something you can learn in a short amount of time, though it doesn't take long to learn enough to pass the test and get your foot in the door. That's when the real learning begins. For many of us, it becomes part of who we are and stays a part of our lives forever. It literally changes us for the better (though

some of our spouses may disagree with that). That's why I was so obstinately insistent on getting permission to stick my antennas out my apartment window. I missed participating in this amazing hobby, and I missed my friends. Even though I think I managed to scare the property manager here with my requests and explanations, I did finally get permission. The very next day I stuck an antenna outside and re-joined the community I had been missing over the last few months.

Ham radio can be anything you make of it. While it can become a life-altering force, it can also become a disregarded \$25 handheld radio collecting dust in the kitchen drawer, or anything in between. It's entirely up to you. It's an amazing hobby, an amazing community, and an amazing amount of fun.

Crazy stuff, huh?

~ Adam Foley N1RKW
Reprinted with permission

ADAM'S JUNK BOX

A Monthly Column By
Adam Foley N1RKW



Guest Columnist Adam Foley N1RKW is a member of the Central New Hampshire Amateur Radio Club and contributes a monthly column "Adam's Junk Box" to their newsletter, also called *The Communicator*.

Adam also has a [YouTube Channel](#)

World Amateur Radio Day

Every April 18, Radio Amateurs worldwide take to the airwaves in celebration of World Amateur Radio Day. It was on that day in 1925 that the International Amateur Radio Union (IARU) was formed in Paris.

Amateur Radio experimenters were the first to discover that the shortwave spectrum - far from being a wasteland - could support worldwide propagation. In the rush to use these shorter wavelengths, Amateur Radio was "in grave danger of being pushed aside," the IARU's history has noted. Amateur Radio pioneers met in Paris in 1925 and created the IARU to support Amateur Radio worldwide.

Just two years later, at the International Radiotelegraph Conference, Amateur Radio gained the allocations still recognized today

on 160, 80, 40, 20 and 10 metres. Since its founding, the IARU has worked tirelessly to defend and expand the frequency allocations for Amateur Radio. Thanks to the support of enlightened administrations in every part of the globe, Radio Amateurs are now able to experiment and communicate in frequency bands strategically located throughout the radio spectrum. From the 25 countries that formed the IARU in 1925, the IARU has grown to include 160 member-societies in three regions.

World Amateur Radio Day is the day when IARU Member-Societies can show our capabilities to the public and enjoy global friendship with other Amateurs worldwide.

Participating groups will promote their WARD activity on social media

by using the hash tag #WARD2016 on Twitter and Facebook. IARU will list all WARD activities on this page.

We hope you will join in the fun and education that is World Amateur Radio Day!

~ The International Amateur Radio Union

April 18 is the day for all of Amateur Radio to celebrate and tell the world about the science we can teach, the community service we can provide, and the fun we have.

April 2016



The Contest Contender

John Brodie VA7XB

Featured Contact Of The Month: 4X6TT

Despite weak sunspot numbers, 20 and 15m both Saturday and Sunday March 5-6, 2016 of the ARRL DX SSB Contest were wide open to Europe and the Middle East. Dave's best contact of the day was 4X6TT in Israel.

It was strictly search-and-pounce, listening to weak foreign callsigns coming over the North Pole and getting familiar with N1MM+ logger for this new ham and *first-time* tester, Dave Tiplady VE7KTK. Dave made about 50 contacts (most with European stations) during his introduction to DX contesting, with coaching on the side provided by John VA7XB.

Amir has participated in a number of DXpeditions including FW5RE Wallis and Futuna Island in the South Pacific and the 4X429DS Dead Sea DXpedition.

Amir 4X6TT is an avid DXer with a first-rate station to match, including a Yaesu FT 3000

transceiver and 26 element Yagi array. The rotator assembly is a "Big Rak", made in Poland. You can see how the beam was erected at: https://www.youtube.com/watch?v=jJxYbNkyK_0.

Further information on Amir can be found at: <https://www.facebook.com/amir.bazak.3>

~ John VA7XB

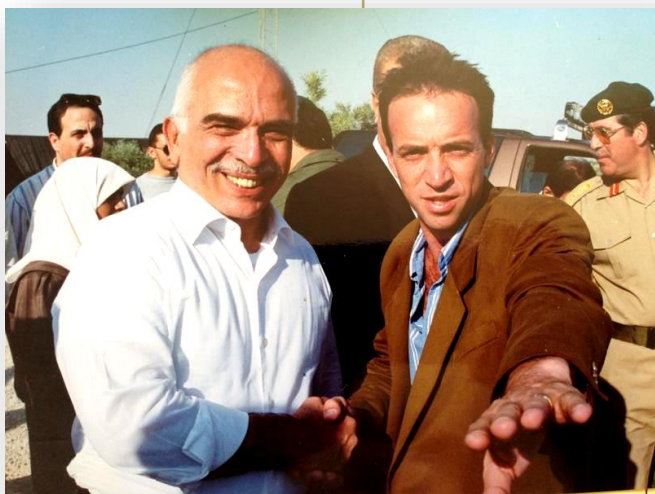
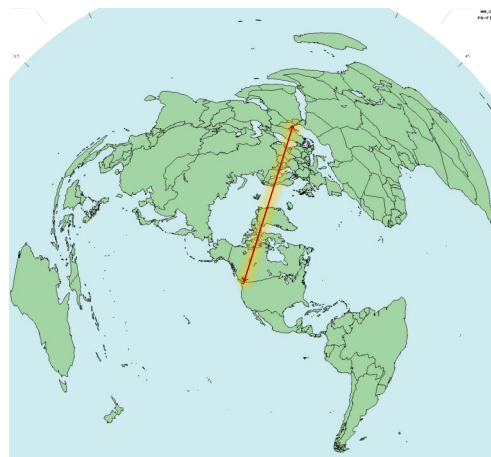


Photo above shows 4X6TT in his younger days with King Hussein of Jordan.



Above: Dave gives the thumbs-up for his confirmed contact with Amir Bazak 4X6TT in Israel.

Below: Azimuthal map of the contact.





Ham radio DX on very short antenna

Larry Shaunce WD0AKX has released a video showing what can be worked with a small amateur radio antenna.

It is a great demo on how to get on HF ham radio using a very small antenna to make contacts

Rodger was able to talk to several locations around the world. This video was taken at NX0P's location near Glenville and Albert Lea, Minnesota.

Watch Ham Radio DX On Very Short Antenna - <https://youtu.be/KmeZ25jabWQ>

April 2016



SURREY AMATEUR RADIO CLUB 2016 RDF Foxhunt

**Saturday May 21, 2016 at
Crescent Park, South Surrey**

**Pre-Hunt Coaching, Registration & Instructions 0900 - 1000
Foxhunt commences at 1000 with barbeque at 1200**

To participate, you need a 2 m handheld radio with directional antenna. For those who have built kits, an 80 m foxhunt is also planned. However, if you are a beginner or don't have a radio, then come anyhow! You can be part of a more experienced team or we will have equipment that you can use.

Talk-in 147.360+ (110.9 tone)

**FOXHUNT – NO CHARGE;
BARBEQUE \$10**

All are welcome, but we ask that you RSVP Anton James VE7SSD jamesadf@shaw.ca and indicate if you plan to attend the foxhunt or BBQ or both

To get there, take Crescent Rd. west from King George Blvd near Hwy 99,
& turn off at 129th St. to parking & assembly area



April 2016

Sun Mon Tue Wed Thu Fri Sat

For details on all SARC events, go to ve7sar.net For details on all SEPARS events, go to separ.shutterfly.com/calendar						
					1	2 0900 Klub Koffee Klatch: Kalmar Family Restaurant, King George Blvd & 81 st Ave.
3	4	5 1915 SEPAR Net 2000 SARC Net SARC Basic Course Session 2	6	7	8	9 0900 Klub Koffee Klatch: Kalmar Family Restaurant, King George Blvd & 81 st Ave.
10 CONTEST: Rookie RoundUp (Phone) 1800-2359Z	11	12 1915 SEPAR Net 2000 SARC Net SARC Basic Course Session 3	13 SARC General Meeting	14	15	16 0900 Klub Koffee Klatch: Kalmar Family Restaurant, King George Blvd & 81 st Ave. CONTEST: CQ Manchester Mineira DX (CW) 1200Z Start
17 CONTEST: CQ Manchester Mineira DX (CW) 1359Z End	18 World Amateur Radio Day Have a ham for lunch!	19 1915 SEPAR Net 2000 SARC Net SARC Basic Course Session 4	20	21	22	23 0900 Klub Koffee Klatch: Kalmar Family Restaurant, King George Blvd & 81 st Ave.
24	25	26 1915 SEPAR Net 2000 SARC Net SARC Basic Course Session 5	27 SARC Exec Meeting	28	29	30 CONTEST: Florida QSO Party (CW/Phone) 1600Z Start

April 2016

CLUB EXECUTIVE 2015-2016

PRESIDENT

Stan Williams VA7NF
(and SEPAR Liaison)

VICE PRESIDENT

Brett Garrett VE7GM

SECRETARY

Jeremy Morse VE7TMY

TREASURER

Scott Hawrelak VE7HA

DIRECTORS

John Schouten VE7TI
(Communicator Editor)

Mike Plant VE7AT
(Repeater Manager)

Bill Gipps VE7XS

Al Peterson VA7ALZ

On the Web

ve7sar.net

Between newsletters, watch your e-mail for announcements of events, monthly meetings and training opportunities. These announcements can also be found on our web page, or via:

Twitter

[@ve7sar](https://twitter.com/ve7sar)

FaceBook

[SurreyAmateurRadio](https://www.facebook.com/SurreyAmateurRadio)

Our YouTube Channel

[SurreyARC](https://www.youtube.com/SurreyARC)

SARC Photo Albums

[Web Albums](#)

or

tinyurl.com/SARCphoto



QRT

Stan Williams—VA7NF

The SARC Clubhouse

The word for today is “Governance”; more on that further on.

Mike Plant has stepped down as president remaining as a director; our Vice President Brett Garrett is on Leave of Absence. The Executive has offered me their confidence as President until the next AGM. The Executive has also unanimously passed a motion thanking Mike for his efforts.

SARC operates under three governance levels, which in our case are:

- **Constitution** - simply stated is for the betterment of Amateur Radio
- **By-Laws** - A list of rules under which the club (Society) operates. They, amongst many other rules, define the membership, executive, and officers; including their duties, term of office, and how elected.
- **Culture** - The unwritten rules under which we operate.

Membership is open primarily to the residents of Surrey, preferably those who are Hams and those so aspiring. The membership elects directors at the AGM who serve for two years and remain directors at the membership discretion. These directors are granted powers to act on behalf of the membership through both **by-laws** and **culture**.

At the first director (executive) meeting after the AGM, these directors select/offer confidence to the club officers to act on the executive and membership behalf. Two officer positions (President and Treasurer) are required by the BC Societies Act; they must be executive members. Officers retain their position until the following AGM or an executive non-confidence vote. Only a membership non-confidence vote can remove a director.

The executive is working on by-law changes that will be presented as notice-of-motion for the following AGM. Part of these changes will move executive spending limits from **culture** to **by-laws**.

Coming up (see the enclosed calendar) are the “Fox Hunt” and “Field Day”:

- Fox Hunt - We may need assistance preparing for this event
- Field Day - A chairperson is required and one top strategic decision will be “to let another club win the contest part” this year and concentrating on “now wasn’t that a party”.
- Club house - We have possession. Jeremy, our club house committee chair, has shown the executive preliminary documents and direction.

Please attend the next general meeting and be prepared to discuss these exciting events.



It's April

Your April presenter is Jeremy Morse, VE7TMY. Jeremy has volunteered to head up the Clubhouse Committee. This meeting will be a session to plot progress to date and to formulate a plan going forward to ensure all club members' opinions are heard.

Your Executive wants this to be a place that you find accessible 24/7, useful for meetings, socializing and, of course, using the planned stations.

Down The Log...

SARC Monthly Meetings

2nd Wed. (Sept-Jun)
1900 hr at the PREOC
Emergency Mgmt BC
14275 96th Avenue,
Surrey, BC

Weekly Club Breakfast

Saturday at 0900 hr
Kalmar Family Restaurant
8076 King George Blvd.
Surrey

SARC Net

Tuesday at 2000 hr local
on 147.360 MHz (+)
Tone=110.9

SEPARS Net

Tuesday at 1915 hr local
on 147.360 MHz (+)
Tone=110.9

VE7RSC Repeaters

2m: 147.360MHz+
Tone= 110.9Hz
IRLP node 1736
Echolink node 496228

1.2m: 223.960 Mhz -1.6
Tone=110.9

70cm: 443.775MHz+
Tone= 110.9Hz
IRLP node 1737

SARC hosts an Amateur Radio net each Tuesday evening at 8 PM. Please tune in to the VE7RSC repeater at 147.360 MHz (+600 KHz) Tone=110.9, also accessible on IRLP node 1736 and Echolink node 496228.

On UHF we operate a repeater on 443.775MHz (+5Mhz) Tone=110.9 or IRLP Node 1737.

	SARC Net 20:00 Hrs
1 st Tuesday Standby	Drew VA7DRW Brett VE7GM
2 nd Tuesday Standby	Jinty VA7JMR Sheldon VA7XNL
3 rd Tuesday Standby	Dixie VA7DIX Ralph VA7UB
4 th Tuesday Standby	Kapila VE7KGK John VA7XB
5 th Tuesday Standby	Robert Fishwick VA7FMR Vacant
Want a turn at Net Control? Contact the SARC Net Manager	



We Have A SARC Patch!

These are suitable for sewing on a jacket, cap or your jammies, so you can proudly display your support for the club.

The price is \$4 each or three for \$10 and they can be picked up at a meeting or the weekly Koffee Klatch.

Burnaby Radio Communications

Michael J. Wong VE7HWW
President/Owner
Commercial / Amateur Radio

4257 Hastings Street
Burnaby, B.C. V5C 2J5
Phone 604-298-5444
Fax 604-298-5455

Email: sales@burnabyradio.com
web: www.burnabyradio.com



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Latest Model Available!

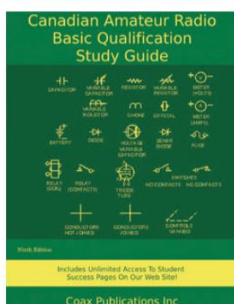
QUAD BANDS TRANSMISSION (including SW)
EIGHT BANDS RECEPTION (including AM & SW)

Twin Band/Same Band Simultaneous Reception;
Duplex Mode (Cross-Band Simultaneous TX&RX) Duplex Cross-Band Repeat;
Same-Band Repeat on two Combined Radios; 8 groups of Scrambler SOS Function



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- ✓ Matched to the Industry Canada Question Bank update in 2014 with more context for the new and revised questions
- ✓ Still includes unlimited access to our acclaimed online Student Success Pages support
- ✓ New Ask The Professor help added for some questions

Same Low Price! Just \$44.95 plus shipping and taxes.

Note for 8th Edition owners: We are still supporting your book. The section references for the Industry Canada questions have changed in the new edition and we have changed our website to ensure that when a reference to a section is presented it will be correct for both editions. The selection is made automatically for you when you log on.

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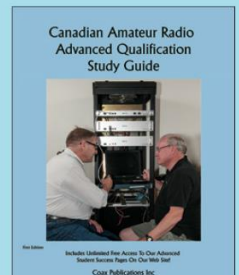
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